

CLAIMS

1. A screw or a tapping screw characterized in having an ultra fine structure of ferrite grains having a 3 μm or less average grain size and a nitride layer in a surface part.
2. The screw or the tapping screw according to claim 1, characterized in the ultra fine structure of ferrite grains having a 1 μm or less average grain size.
3. The screw or the tapping screw according to claim 1 or 2, characterized in that a nitride layer in the surface part has a 100 μm or less thickness.
4. The screw or the tapping screw according to any of claims 1 to 3, characterized in that hardness of the nitride layer of the surface part is 450 or more in Vickers hardness.
5. A production method for the screw or tapping screw according to any of claims 1 to 4, characterized in that a low temperature soft-nitriding process is applied at a temperature of 480°C to 590°C to a compact of a screw or a tapping screw having an ultra fine structure of ferrite grains having a 3 μm or less average grain size.
6. The production method for a screw or a tapping screw according to claim 5, characterized in that a low temperature soft-nitriding process is applied at a temperature of 500°C to 550°C.